customer comes in and complains that he has a pain in his temple, the druggist turns to his shelf and puts him up a few anti-pain tablets. So simple! The prominent Dr. Blank uses them.

Then what of the efficacy of these compounds, the doses of which are unknown? Is it possible to get as good results from a mixture of drugs, the dose of each ingredient being unknown, as it would be where the doses are known? Then where are we drifting? There is not a day passes but what I receive a large number of cards, circulars, pamphlets and journals setting forth the virtues, beauty, etc., of some proprietary remedy, old or new. Many free samples are sent and later comes a request for a report as to results. These reports are compiled, printed and sent broadcast to all physicians in the country. Generally speaking the deductions are made upon a short use and superficial examination as to their merits, but to read the headlines and general trend of the advertising "literature" one would think that the much-vaunted remedy would be a specific in that particular disease; a trial of it usually leaves one a sadder but a wiser man.

And so I wish here to enter a protest against the use of such mixtures. I believe their use is degrading to the medical profession. I believe the man who uses them to be less of a scientist, less of a physician and less of a man for using them. I am prepared to go further. I am prepared to state that **the medical journal that advertises such remedies and thereby upholds and advances their use is a detriment to the profession and should not be supported by members of this Society or of the medical profession in general.**

This is a broad subject and I have but touched upon a few of the influences for evil to our profession but I hope I have given you some food for thought and I wonder if you see this "infant industry," but growing monster, as I see it. I call it a "monster" for I can see it is hydra-headed and among them I see one head I might term "unknown quantity," another "unknown quality," another "alcoholism," another "unscientific," another "machine" (you press the button and down drops a medicine for cystilitis, another button and you get one for fever, etc., etc., *ad nauseam*).

Now understand me, I am not advocating the abolishment of *all* proprietary remedies, whether they are good or not. That is going *too far the other way*, for the physician who refuses to prescribe a well established remedy merely because it is a proprietary remedy is not doing the best possible for his patient or himself. On the other hand the prescribing and using of preparations, the composition of which are *unknown*, is to be condemned, as it is unscientific, unethical and bound to react injuriously upon the physician and public alike.

I therefore repeat the question asked in the opening of this paper. Do you see with me peering over the horizon of the medical world a monster, that if allowed to rise is likely to utterly destroy the medical profession?

Inferior Ethmoidal Turbinate Bone.

The *Annals of Otology, Rhinology and Laryngology* for September contains a very fine article on this subject illustrated with 47 half-tones that leave nothing to be desired. Section of the portion of the skull involved has been made in a number of different planes, the specimens photographed and beautiful half-tones made from these photographs. It should receive the attention of everyone interested in the surgery of this section.

Dr. W. L. Teaby of Monterey was married to Elizabeth Godfrey Heintz on December 1, 1904. Dr. Teaby has taken up the duties of house physician of Hotel Del Monte, a position which he is thoroughly qualified to fill.

EPINEPHRIN; ESPECIALLY IN ASTHMA.*

By ROBERT LEEPER DOIG, M. D., San Diego.

WHETHER we are willing to admit, with Sajous, that the adrenals control all oxidation processes; that they are essential to muscular contraction; that the adrenal system, consisting of the adrenals, the anterior pituitary body and the thyroid gland, contains the most important organs of the body—whether we are willing to admit all this or not, none of us who has had any experience with epinephrin can doubt that it is a powerful agent. That by its application to the turgescent tissues, during an acute rhinitis; the swelling is promptly, if temporarily relieved; that used in conjunction with cocain on the mucous membrane of the nose, a bloodless as well as a painless superficial operation can be performed; that by hypodermic use the same thing can be accomplished in deeper tissues, are facts with which we are all familiar.

An extract from an organ, the counterpart of which exists in every human being, does all this before our eyes (we do not even know that this preparation represents all the active principles of the secretion of the organ); yet in the study of cases, the average physician no more considers the existence and possible bearing of the adrenals than he considers the existence of the phalanges of the little toe. Even in postmortems, when the disease has puzzled us, but little attention is paid to the condition of the adrenal glands.

My experience in the use of epinephrin has been too limited to be of use scientifically, but it has been sufficient to convince me that here we have a remedy powerful for good, and possibly for ill, and that the function of a gland that contains or produces such a substance cannot but be important. My only hope is to stimulate an interest in the study of the effects of the laboratory products of these glands and of the relation of the glands themselves to physiological and pathological phenomena.

During anesthesia in surgical operations, the hypodermic use of epinephrin increases the blood pressure, increases the absorption of oxygen by the hemoglobin molecules, prevents the lowering of temperature during ether anesthesia and possibly thereby the tendency to pneumonia. I believe it also tones up the heart muscle.

It is more particularly to its action during the paroxysms of asthma that I wish to call your attention.

Case 1—Female, single, age 25; well developed, general health good; bowels regular; menstruation regular; family history indifferent; occupation milliner; residence Michigan. First attack of asthma at the age of four years, following exposure. Gradual development of asthma in winter and hay fever in summer. Of late years frequent attacks of asthma, when she would often not be able to lie down for three weeks. During attacks she suffered severely with pain in the region of the sixth left dorsal nerve.

First saw her on March 21, 1904. Moderate attack. Treated with usual remedies with indifferent success. Gradual abatement in about four days. April 1st came to my residence at noon. Dyspnea extreme, cyanosis marked, intercostal pain very severe. Found no morphin in my hypodermic case. Had used epinephrin in surgical case during the morning and had bottle with me. I thought the general effect would be good, and if the local application would relieve an edemetous membrane, the hypodermic use of it would also. Gave her twelve drops undiluted of the 1 to 1000 solution. In less than two minutes a relieved expression came into the face and she remarked: "I never had morphin relieve me so quickly." The relief was certainly quick and complete. There was a moderate return of dyspnea that night and the next day. The same dosage relieved her each time, and that was the end of the attack. Eight to ten minutes after each dose a general tremor developed, which passed off in ten to fifteen minutes and left a feeling of general weakness. She was not cold and it seemed much like fibrillary tremor of fear or excitement.

The remark that each of the succeeding attacks was relieved by one dose, is not quite true. Thinking possibly to overcome this tremor gr. 1 to 150 of atropin sulph. was combined with the third dose. Apparently there was complete inhibition of the effect of the epine-

*Read before the San Diego County Medical Society.

phrin. Gave another dose of epinephrin alone, in about twenty minutes, with complete relief of dyspnea. The tremor followed but was, I think, not so severe. This symptom has been constant with this patient and also with the second. In the second case it did not seem so severe but was more prolonged. An hour after one treatment he told me that he wanted to write a check but did not, because he was sure that, at the bank, they would think he was drunk.

Sajous gives this, among others, as one of the symptoms of adrenal over-activity, and possibly in these cases it indicated an unnecessarily large dose. Hoping possibly to ward off future attacks, gave patient No. 1 suprarenal extract in 5 gr. capsules, one three times a day, but she was unable to take one a day on account of disturbance of the stomach. Ten days later was called in the night. Usual symptoms. Hypodermic injection of 1 to 1000 solution, ten minims. Relief in two and one-half minutes. Patient was now going to the country, so I gave her a bottle of epinephrin solution to be taken during attacks, twenty drops every one-half hour. She reported "no effect whatever."

When free from symptoms, I think in May, I had Dr. Fred Baker examine her. He demonstrated that pressure high up on the left lateral band would start asthamatic breathing. Advised systematic application of 20 per cent chromic acid solution. Owing to patient being in the country, I was never able to carry out this suggestion. She came in two or three times, during May and June, suffering from attacks which were invariably relieved by epinephrin (hypodermically). In the meantime, she had developed a fistula in ano. Her people were not willing to have an operation here, so she returned to Michigan. I wrote her physician of my experience with her and particularly urged treatment of lateral band. Received a letter from her recently, saying that at the same time she was operated upon for fistula, the galvano cautery was used on her throat. Was feeling fine; free from hay fever, etc. But of course it is too soon to judge of results.

Case 2—Male, age 53; druggist. First noticed symptoms resembling hay fever at about 38 years of age. Would develop after handling morphia and scale pepsin. Was much run down at the time. After a few months, and an outing, he recovered and was not bothered for some years. Symptoms returned about seven years ago and gradually became more asthmatic in character. Various things in the prescription counter would bring on an attack. Once had an attack while at Lake Tahoe from taking a mixture for diarrhea, containing a small amount of laudanum. Gave up business two years ago. When I have seen him there has seemed to be but little spasm of the bronchi, but more of a general edema of the bronchial mucous memberane. Have used epinephrin four times. Relief is prompt and lasting, but not quite so rapid as in first case.

The injections are less painful when the solution epinephrin is diluted with equal parts of normal salt solution. The aching and soreness following are perhaps more lasting than after morphin injections.

It is only fair to say that P. D. & Co., in a brochure on the subject, note that gangrene and subsequent sloughing have followed the hypodermic use of solutions even much more dilute than 1 to 2000. Before seeing this (and since), I have frequently used the 1 to 1000 solution in fifteen minim doses, and have seen no bad results. To watch the local effect, I took in my own arm, a few days ago, ten drops each of epinephrin and normal salt solution.

The following were notes made: 9:57 A. M., injection over insertion of deltoid. Not painful. 9:58½ A. M., blanched skin size of a nickel; cutis ansera very marked. 10 A. M., blanched spot size of half dollar, surrounded by pink aureola. Tendency to fibrillary tremor; decided ache; greater fullness of pulse, no effect on rate. 10:10 A. M., whitened area size of a dollar; aureola more marked. Ache extends in course of ulnar nerve; noticeable down to little finger. Slight ache and some soreness most of the day. Nothing to be seen at bedtime.

My belief is that where there has been sloughing, the epinephrin has been injected into the skin itself, and that when put into looser tissue no such results will follow. When I first used epinephrin for asthma, I was not aware that its use, hypodermically, for this disease had been reported. I have since noticed a series of five cases reported by Drs. Bullowe and Kaplan of N. Y. antedating mine, and there may have been others. Their report was favorable in each case.

REPORT OF A CASE OF PERNICIOUS ANEMIA.*

By B. F. STEVENS, M. D., Associate Attending Physician Sisters' Hospital, of El Paso, Tex.

THE following case is of interest, because of its resemblance to uncinariasis, which I at first thought it was:

Mr. X, age 55. Family history unobtainable. Previous history negative. His occupation is that of superintendent of mines, which necessitates him visiting various small mines and camps in Mexico, where the food is poor and the drinking water is obtained from ditches and stagnant pools. He has always been healthy and robust, until his present illness began, which was in March, 1903. At that time he developed a persistent diarrhea, which lasted two months. A distinct palor developed at the same time, which stiil persists. He also complained of a general weakness and lassitude. He has occasional fainting spells. The appetite also is fickle.

Status prasens (January 1, 1904).—Patient fairly well nourished, of a waxy, anemic appearance, no color in lips or mucous membranes. Abdomen rather prominent, but soft and easily palpable. Eyes negative. Lungs negative. Heart has a sytolic murmur probably of hemic origin. Abdomen prominent, no tumor palpable. Rectum negative, no hemorrhoids. Urine, twenty-four hour specimen, 1400 c. c., S. G. 1018; no albumen or sugar; few hyaline casts.

His temperature is irregular, varying from normal to 100 F. Uncinariasis or "miners' anemia" was first thought of, for several reasons, on account of his occupation and mode of life, his waxy, anemic appearance, prominent abdomen; also because he always felt better after free purgation. Therefore, I first examined his stools, after giving him four grammes of thymol in capsules, in two doses, two hours apart on an empty stomach. This was followed in two hours by 45 c. c. of castor oil, given in beer foam to disguise the taste. The stools were then saved and examined as follows: 10 c. c. of feces were well shaken with 90 c. c. of water, and then allowed to settle for two hours. The sediment was then examined for eggs repeatedly, but none were found. Worms also were absent.

A blood examination was next made, which was as follows: Reds, 1,200,000; hemaglobin, 30%; color index, 1.2; marked poikilocytosis; few nucleated reds (gigantoblasts). This of course settled the diagnosis. The patient was put on an intestinal antiseptic with increasing doses of arsenic. He then returned to his home in Mexico. His family physician wrote (April, 1904) that the attacks of dizziness and fainting continued to grow worse, so that it was impossible for him to even sit up in bed. His mind also was no longer clear. His death occurred in the early part of May. No post mortem was obtainable.

Stiles in a report on the prevalence and geographical distribution of hook worm disease, shows the wide distribution, especially through the South, in the sandy regions, in people who are careless in their habits and mode of living. The lesions produced by the hook worm occur in the small intestine a few meters from the stomach. The anemia is due to the hemorrhage, through the wounds made by the parasite; also to the blood which it sucks. There is also a toxin developed by the worm itself. The anemia is more or less severe, according to the number of worms in the intestine and the length of their existence there. The longest period of time which the disease has existed without re-infection, of which Stiles has any accurate record, is 6 years and 7 months. The disease has existed for fifteen years in certain subjects, but they were living under poor hygenic conditions, so that they were probably re-infected. The eggs of the female do not develop in the human intestine, but require an intermediary host, so that unless the patient is reinfected, the worms must eventually die out. The intermediary host is probably the earth. Ordinary earth worms are thought by some to act as host. The eggs are oval in shape, .05 m.m. long, and have a thin transparent shell. The male worm is from 6 to 10 m.m. long, the female being a little larger, from 5 to 18.

The symptoms are more or less severe, according to the length of the time the disease has existed, and the number of worms present. The patient complains of gastro-intestinal disturbances, colicky pains, dyspnea and later on, edema, with the general appearance of a more or less profound anemia. The repeated examination (microscopic) of the stools, for the worms or eggs, especially after the adminis-

*Read before the El Paso County (Texas) Medical Society. Blood specimens were also shown.